

Application Serial No. 10/607,276  
Amendment dated July 13, 2004  
Reply to Office action of April 19, 2004

REMARKS

Claims 1, 2, and 3 are pending in this application. Claim 1 is amended herein. Support for the amendment to claim 1 may be found in claim 1 as originally filed. In particular, an colon has been added to claim 1 following the first instance of the word "comprising". The addition of a colon to claim 1 pertains merely to matters of form and is clearly unrelated to patentability. Reconsideration is requested based on the foregoing amendment and the following remarks.

Claim Rejections - 35 U.S.C. § 102:

Claims 1, 2, and 3 were rejected under 35 U.S.C. § 102(b) as anticipated by Whitsitt *et al.*, US 1,786,882. The rejection is traversed to the extent it would apply to the claims as amended.

The claimed invention relates to a micro-scale channel unit with wide curved connecting channel portion. The Applicants would like to support the technical evidence of the claimed invention by attaching two papers presented at the well known international conferences (reviewed conferences), indicating that the present invention is essentially new:

[1] Lim, S. & Choi, H. 2003 Optimal Shape Design of Pressure-driven Curved Micro Channels with Hydrophilic and Hydrophobic Walls. Nanotech 2003, San Francisco, CA USA, Feb. 23-27, 2003 (vol. 1, pp. 170-173).

[2] Lim, S. & Choi. H. 2004, "Optimal Shape Design of a Pressure-driven Curved Micro Channel". 42nd AIAA Aerospace and Sciences Meeting and Exhibit, Reno, NV, USA, Jan. 5-8, 2004, AIAA-2004-624.

Claim 1 recites, in pertinent part:

"A micro channel with a width of micrometer dimensions through which liquid flows."

Whitsitt neither teaches, discloses, nor suggests a micro channel with a width of micrometer dimensions through which liquid flows, as recited in claim 1. Whitsitt, rather, shows a superheater unit for a locomotive boiler, as described at column 1, lines 2 and 3.

The Office action acknowledges that Whitsitt shows no micro channel. The Office action goes on to assert that "a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations."

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Even if that were true, it would still not be relevant to claim 1, since Whitsitt does not satisfy the claimed structural limitation of a micro channel with a width of micrometer dimensions through which liquid flows as recited in claim 1 at all. Whether or not a recitation with respect to the manner in which a claimed apparatus is intended to be employed differentiates the claimed apparatus from a prior art apparatus is submitted to be irrelevant where a prior art apparatus does not satisfy the claimed structural limitations in the first place. Claim 1 is submitted to be allowable. Withdrawal of the rejection of claim 1 is earnestly solicited.

Claims 2 and 3 depend from claim 1 and add further distinguishing elements. Claims 2 and 3 are thus also submitted to be allowable. Withdrawal of the rejection of claims 2 and 3 is also earnestly solicited.

Claims 1, 2, and 3 were rejected under 35 U.S.C. § 102(b) as anticipated by Kunstorff, US 2,194,946. The rejection is traversed to the extent it would apply to the claims as amended.

Kunstorff neither teaches, discloses, nor suggests a micro channel with a width of micrometer dimensions through which liquid flows, as recited in claim 1. Kunstorff, rather, shows a steam trap for a steam line, as described at column 1, lines 3 and 4.

The Office action acknowledges that Kunstorff shows no micro channel. The Office action goes on to assert that "a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations."

Even if that were true, it would still not be relevant to claim 1, since Kunstorff does not satisfy the claimed structural limitation of a micro channel with a width of micrometer dimensions through which liquid flows as recited in claim 1 at all. Whether or not a recitation with respect to the manner in which a claimed apparatus is intended to be employed differentiates the claimed apparatus from a prior art apparatus is submitted to be irrelevant where a prior art apparatus does not satisfy the claimed structural limitations in the first place. Claim 1 is submitted to be allowable. Withdrawal of the rejection of claim 1 is earnestly solicited.

Claims 2 and 3 depend from claim 1 and add further distinguishing elements. Claims 2 and 3 are thus also submitted to be allowable. Withdrawal of the rejection of claims 2 and 3 is also earnestly solicited.

Claims 1, 2, and 3 were rejected under 35 U.S.C. § 102(b) as anticipated by Brooks, US

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4,146,195. The rejection is traversed to the extent it would apply to the claims as amended.

Brooks neither teaches, discloses, nor suggests a micro channel with a width of micrometer dimensions through which liquid flows, as recited in claim 1. Brooks, rather, shows a direction changing section of tubing for a pneumatic conveyor, as described at column 1, lines 33 and 34.

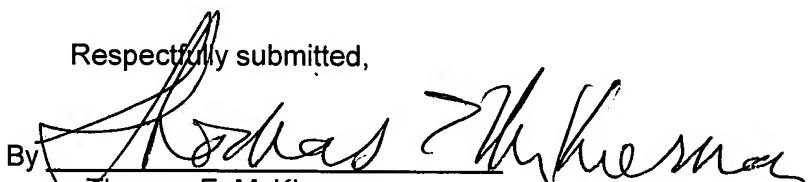
The Office action acknowledges that Brooks shows no micro channel. The Office action goes on to assert that "a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations."

Even if that were true, it would still not be relevant to claim 1, since Brooks does not satisfy the claimed structural limitation of a micro channel with a width of micrometer dimensions through which liquid flows as recited in claim 1 at all. Whether or not a recitation with respect to the manner in which a claimed apparatus is intended to be employed differentiates the claimed apparatus from a prior art apparatus is submitted to be irrelevant where a prior art apparatus does not satisfy the claimed structural limitations in the first place. Claim 1 is submitted to be allowable. Withdrawal of the rejection of claim 1 is earnestly solicited.

Claims 2 and 3 depend from claim 1 and add further distinguishing elements. Claims 2 and 3 are thus also submitted to be allowable. Withdrawal of the rejection of claims 2 and 3 is also earnestly solicited.

Conclusion:

Accordingly, in view of the reasons given above, it is submitted that all claims 1, 2, and 3 are allowable over the cited references. Allowance of all claims 1, 2, and 3 and of this entire application are therefore respectfully requested.

Respectfully submitted,  
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